

Orders Artiodactyla and Perissodactyla—Families Antilocapridae, Bovidae, Cervidae, and Equidae

Need to know

Terms: antler, beam, tine, palmate, broomed, horn

Order Perissodactyla

Family Equidae = photos, skull, NH

Order Artiodactyla

Family Antilocapridae

Antilocapra americana = photos, skull, NH

Family Bovidae

Bos (Bison) bison = photos, skull, NH

Bos taurus = photos, skull, NH

Oreamnos americanus = photos, skull, NH

Ovis canadensis = photos, skull, NH

Family Cervidae

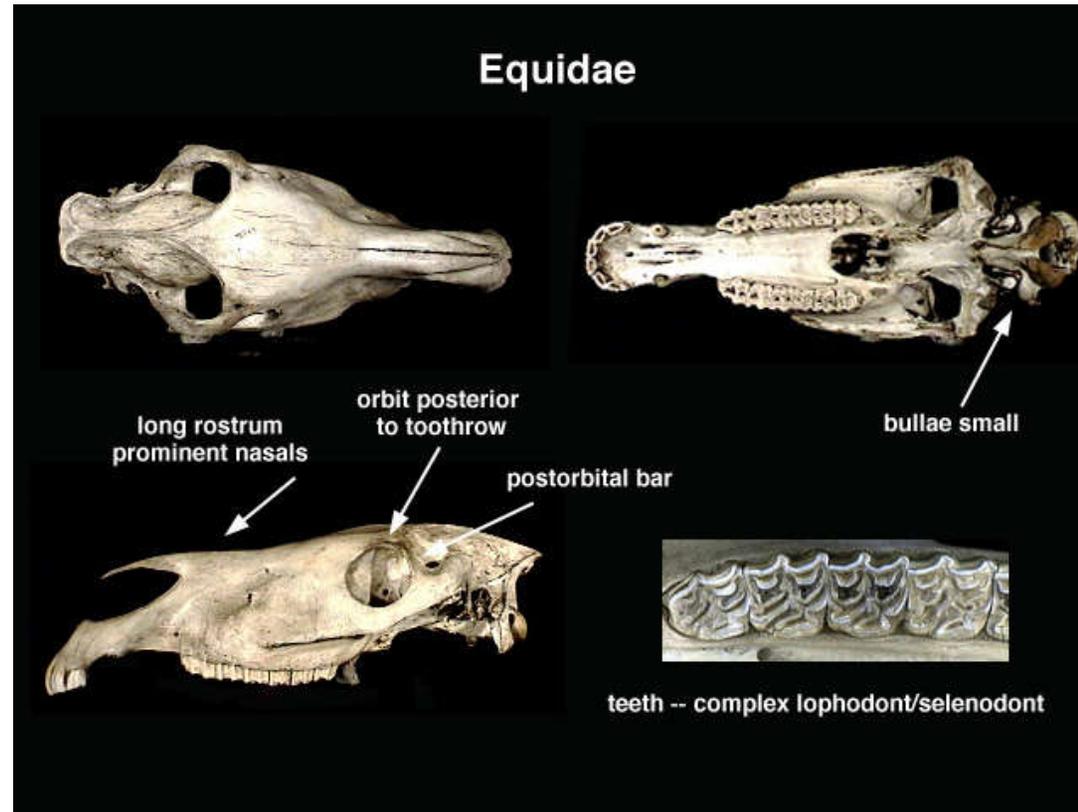
Alces alces = photos, skull, NH

Cervus elaphus = photos, skull, NH

Odocoileus hemionus = photos, skull, NH

Odocoileus virginianus = photos, skull, NH

Order Perissodactyla, Family Equidae (horses)

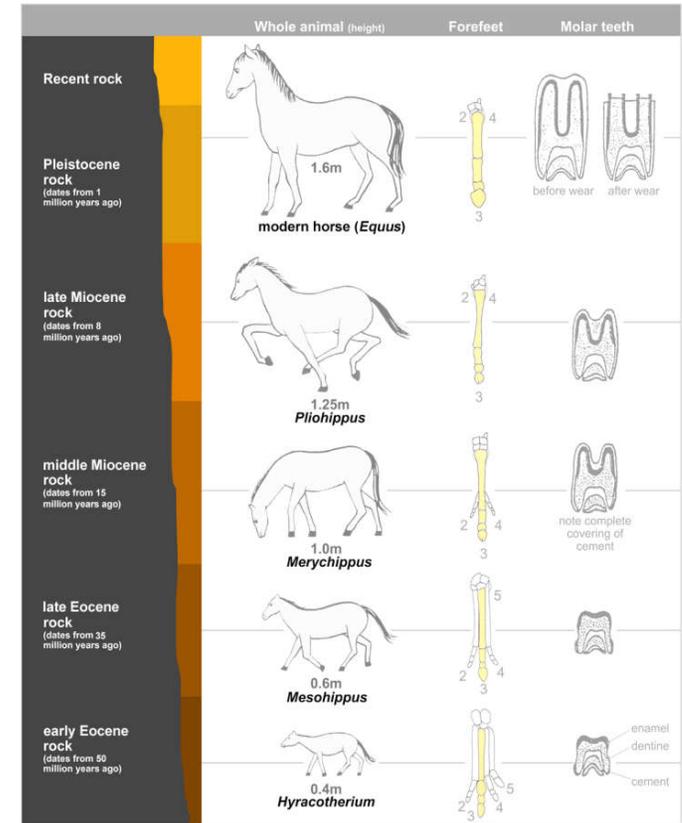


- 1) six upper incisors (contrast with Bovidae and Cervidae)
- 2) high-crowned teeth
- 3) upper canines usually present in adults

Family Equidae Natural History

Natural History

- 1) One of the most complete fossil records of any vertebrate; increased tendency toward weight-bearing on 3rd digit (hoof) and hypsodonty through evolutionary time.
- 2) Only extant genus is Equus, containing 7 species of which 5 are IUCN red-listed
- 3) Ancestral horses were probably striped; 3 species of zebra are more closely related to other (unstriped) Equus than they are to each other
- 4) Family Equidae diversified in Great Basin of N. America, although all extant species are in Old World (New World equids died out ~10,000 YA)



Hypohippus (11-17 MYA)



kiang



onager

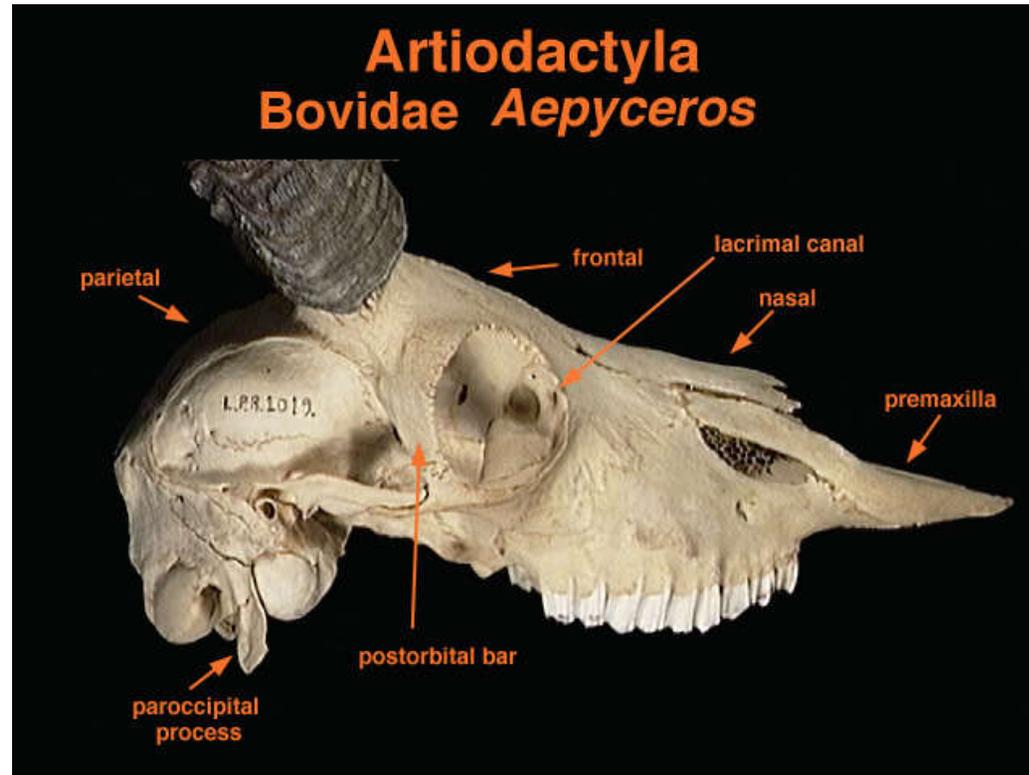


WY's Wild/Feral Horses

- **New World horses brought to North America by the Spanish**
 - **Rapid integration by western US native peoples**
- **US Population: ~67,000**
 - **including feral burros**
 - **47,000 more in holding pens**
- **WY Population: ~6,500**
 - **300 near Centennial**
- **Some evidence that feral horses reduce animal diversity and native vegetation, increase non-native vegetation**
- **Some argue that horses are effectively native**



Order Artiodactyla, Family Bovidae (hollow-horned ruminants)



- 1) no upper incisors (contrast with Equidae)
- 2) horns—not deciduous, consisting of bony cores and sheaths made of keratin
- 3) single lacrimal foramen (excepting *Bison*)

***Bos (Bison) bison* (American bison)**



- 1) From dorsal view, frontals and parietals conceal zygomatic arches.
- 2) Paraoccipital crest with depression
- 3) Skull more triangular than *Bos*



- 1) Sloping, arched back, particularly in males
- 2) Woolly
- 3) Head typically darker than shoulders

Natural History

- 1) Functionally extinct in the wild, except for free-ranging herds in Yellowstone and Grand Teton NP, Henry Mountains (Utah), and Wood Buffalo NP (Alberta)
- 2) Sexual segregation of bulls and cows in summertime; bulls form bachelor herds
- 3) Closest living relatives are wild yak (Tibet) and wisent (AKA European bison in E Europe)
- 4) Largest extant animal in North America



***Bos taurus* (cow or auroch)**



- 1) From dorsal view, frontals and parietals do not conceal zygomatic arches.
- 2) Paraoccipital crest lacking depression
- 3) Skull less triangular than *Bison*

- 1) Variable
- 2) Rarely appear woolly

Natural History

- 1) Auroch was the wild ancestor from eastern Europe which went extinct in the 1600s
- 2) Banteng from SE Asia is closest (wild) living relative
- 3) Assume great cultural importance across the world

Argentinian gaucho



Gillette cowboy



banteng



Hindu worshiper



auroch



Maasai herder



***Oreamnos americanus* (mountain goat)**



- 1) Bone core of horn nearly round in cross-section
- 2) Skull narrows little from parietals to premaxillae



- 1) White or cream-colored pelage
- 2) Sharp, black horns
- 3) Short beard
- 4) Both sexes have horns

Ovis canadensis (bighorn sheep)

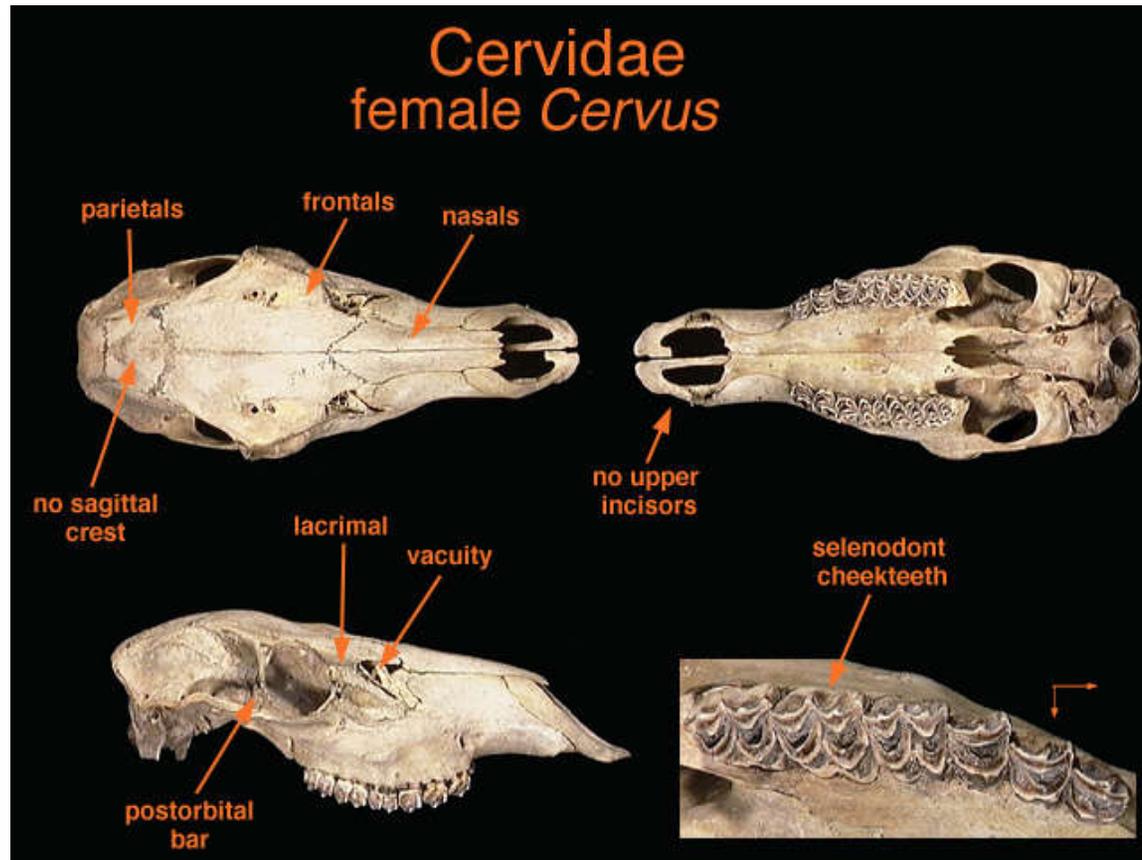


- 1) Bone core of horn ovoid in cross section
- 2) Skull narrows conspicuously from parietals to premaxillae
- 3) Bone core massive, without a prominent keel
- 4) Horns broomed (blunt because of breaking or rubbing so as not to impair vision) in mature individuals



- 1) Tawny, uniform brown with white rump and muzzle

Order Artiodactyla, Family Cervidae (deer)



- 1) no upper incisors (contrast with Equidae)
- 2) antlers—deciduous, consist solely of bone
- 3) two lacrimal foramina

Alces alces (moose)



- 1) Elongated premaxillae (contrast with Cervus and Odocoileus)
- 2) Vomer does not divide posterior nares (contrast with Odocoileus)
- 3) Palmate (hand-like) antlers, as opposed to branching antlers in Cervus and Odocoileus



- 1) Chocolate brown pelage with lighter legs
- 2) Dewlap (more prominent in males)
- 3) Large, squarish nose

Cervus elaphus **(elk or wapiti)**



- 1) Large upper canines
- 2) Vomer does not divide posterior nares (contrast with *Odocoileus*)



- 1) Brown or reddish-brown body with darker neck and legs
- 2) cream-colored rump patch
- 3) antlers brown in color, and not palmate

Odocoileus hemionus (mule deer or black-tailed deer)



- 1) Vomer divides posterior nares (contrast with Alces and Cervus)
- 2) Preorbital vacuities or pits are deep (contrast with virginianus)

- 1) Antlers not palmate
- 2) Antlers bifurcated
- 3) Entire tail white, with black tip
- 4) Usually with white'ish face

Odocoileus virginianus (white-tailed deer)



1) Vomer divides posterior nares (contrast with Alces and Cervus)

2) Preorbital vacuities or pits are shallow (contrast with hemionus)



- 1) Antlers not palmate
- 2) Antlers not bifurcated, with one or more tines extending from a primary beam
- 3) Tail lacking a black tip, brown on top, white on underside
- 4) Rarely with white on face